

and their management for DSL design studies. 9. Simulation techniques for the QAM (2D) code. 10. Computer based optimization techniques for HDSL design. Part IV. System performance from very low to very high rates. 11. Data up to PRISDN rates. 12. Data at PRISDN rate. 13. Performance of trellis coding. 14. Digital subscriber line (HDSL and ADSL) capacity. Part V. Recent high-speed network environments. 15. Knowledge highways. 16. Impact of fiber optic technology. 17. Optical lightwave systems in existing networks. 18. A PC based fiber optic CAD environment. Glossary. Index. Author's biographies.

*Web Security & Commerce*. By Simson Garfinkel. O'Reilly, Sebastopol, CA. (1997). 483 pages. \$32.95.

Contents:

Preface. I. Introduction. 1. The web security landscape. II. User safety. 2. The buggy browser: Evolution of risk. 3. Java and JavaScript. 4. Downloading machine code with ActiveX and plug-ins. 5. Privacy. III. Digital certificates. 6. Digital identification techniques. 7. Certification authorities and server certificates. 8. Client-side digital certificates. 9. Code signing and Microsoft's Authenticode. IV. Cryptography. 10. Cryptography basics. 11. Cryptography and the Web. 12. Understanding SSL and TLS. V. Web server security. 13. Host and site security. 14. Controlling access to your web server. 15. Secure CGI/API programming. VI. Commerce and society. 16. Digital payments. 17. Blocking software and censorship technology. 18. Legal issues: Civil. 19. Legal issues: Criminal. VII. Appendixes. A. Lessons from Vineyard.NET. B. Creating and installing web server certificates. C. The SSL 3.0 protocol. D. The PICS specification. E. References. Index.

*The Joy of C*, (Third edition). By Lawrence H. Miller and Alexander E. Quilici. John Wiley & Sons, New York. (1997). 788 pages. \$58.95 (diskette included).

Contents:

Preface. I. A gentle introduction to C. 1. Getting started with C. 2. Getting comfortable with C. 3. An introduction to functions. II. The basics. 4. Numbers. 5. Characters. 6. Operators. 7. Statements. 8. Arrays. 9. Program structure. III. Advanced data types. 10. Pointers. 11. Strings. 12. Constructed types. 13. Arrays of arrays. 14. Arrays of pointers. IV. Advanced program structure. 15. The preprocessor. 16. Functions revisited. 17. Generic functions. 18. Complex declarations. V. C and the real world. 19. External files. 20. Lists and trees. 21. Portability. VI. Moving from C to C++. 22. C++ basics. 23. Encapsulation with classes. 24. Inheritance. Appendices. A. Library details. B. Character sets. Index.

*Windows NT in a Nutshell: A Desktop Quick Reference for System Administrators*. By Eric Pearce. O'Reilly, Sebastopol, CA. (1997). 348 pages. \$19.95.

Contents:

Preface. 1. Using Windows NT. 2. The control panel. 3. Administrative tools. 4. Accessories. 5. RAS and DUN. 6. Using the command line. 7. Uncommon sense. Appendixes. A. NetBIOS. B. TCP/IP. C. Server versus workstation. D. NT resources. Glossary. Task index. Index.

*Slaves of the Machine: The Quickenning of Computer Technology*. By Gregory J. E. Rawlins. MIT Press, Cambridge, MA. (1997). 135 pages. \$25.00.

Contents:

Preface. 1. A strange new machine. 2. The greed for speed. 3. Precisely speaking. 4. The subjunctive mood. 5. Limits to growth. 6. Thinking about thinking. My thanks. Index.

*Metamathematics, Machines, and Gödel's Proof*. By N. Shankar. Cambridge University Press, New York. (1994). 202 pages. \$39.95 (hardback), \$24.95 (paperback).

Contents:

Preface. 1. Introduction. 2. The statement of the incompleteness theorem. 3. Derived inference rules. 4. The representability of the metatheory. 5. The undecidable sentence. 6. A mechanical proof of the Church-Rosser theorem. 7. Conclusions. Bibliography.

*Numerica: A Modeling Language for Global Optimization*. By Pascal Van Hentenryck, Laurent Michel and Yves Deville. MIT Press, Cambridge, MA. (1997). 210 pages. \$25.00.

Contents:

List of tables. List of figures. List of statements. Preface. 1. Introduction. 2. A tour of Numerica. 3. The meaning of Numerica. 4. Modeling in Numerica. 5. The syntax of Numerica. 6. The semantics of Numerica. 7. An implementation of Numerica. 8. Experimental results. Appendixes. 1. Syntax of Numerica. 2. Benchmarks. Bibliography. Index.

*Pattern Matching Algorithms*. Edited by Alberto Apostolico and Zvi Galil. Oxford University Press, New York. (1997). 377 pages. \$65.00.

Contents:

1. Off-line serial exact string searching (M. Crochemore). 2. Off-line parallel exact string searching (Z. Galil and I. Yudkiewicz). 3. On-line string searching (A. Apostolico). 4. Serial computations of Levenshtein distances

(D.S. Hirschberg). 5. Parallel computations of Levenshtein distances (A. Apostolico and M.J. Atallah). 6. Approximate string searching (G.M. Landau and U. Vishkin). 7. Dynamic programming: Special cases (R. Giancarlo). 8. Shortest common superstrings (M. Li and T. Jiang). 9. Two dimensional matching (A. Amir and M. Farach). 10. Suffix tree data structures for matrices (R. Giancarlo and R. Grossi). 11. Tree pattern matching (K. Zhang and D. Shasha).

*Analytical Development Economics: The Less Developed Economy Revisited.* By Kaushik Basu. MIT Press, Cambridge, MA. (1997). 366 pages. \$40.00.

Contents:

Preface. Preface to *The Less Developed Economy*, 1984. I. Preliminaries. 1. Introduction. II. Macro perspectives. 2. The vicious circle of poverty. 3. Growth and development. 4. Inflation and structural disequilibrium. 5. Foreign exchange and trade: Some considerations. 6. International debt. III. The dual economy. 7. The structure of a dual economy. 8. Migration. 9. The rural-urban wage gap. 10. Unemployment and surplus labor. IV. The rural economy. 11. Stagnation in backward agriculture. 12. Tenancy and efficiency. 13. Rural credit markets. 14. Interlinkage in rural markets. V. Concluding remarks. 15. The limits of economic analysis. References. Name index. Subject index.

*Logic of Mathematics: A Modern Course of Classical Logic.* By Zofia Adamowicz and Pawel Zbierski. John Wiley & Sons, New York. (1997). 260 pages. \$49.95.

Contents:

Introduction. Part I. Mathematical structures and their theories. 1. Relational systems. 2. Boolean algebras. 3. Subsystems and homomorphisms. 4. Operations on relational systems. 5. Terms and formulas. 6. Theories and models. 7. Substitution of terms. 8. Theorems and proofs. 9. Theorems of the logical calculus. 10. Generalization rule and elimination of constants. 11. The completeness of the logical calculus. 12. Definability. 13. Peano arithmetic. 14. Skolem-Löwenheim theorems. 15. Ultraproducts. 16. Types of elements. 17. Supplementary questions. Part II. Selected topics. 18. Defining functions in  $N$ . 19. Total functions. 20. Incompleteness of arithmetic. 21. Arithmetical consistency. 22. Independence of Goodstein's theorem. 23. Tarski's theorem. 24. Matiyasevich's theorem. Guide to further reading. References. Index.

*Advanced Topics in Difference Equations.* By Ravi P. Agarwal and Patricia J.Y. Wong. Kluwer Academic Publishers, Dordrecht, The Netherlands. (1997). 507 pages. \$245.00, Dfl. 395.00, £146.00.

Contents:

Preface. 1. Periodic solutions of first order linear equations. 2. Periodic solutions of generalized difference systems. 3. Periodic boundary value problems: First order systems. 4. Periodic boundary value problems: Second order systems. 5. Periodic solutions of higher order partial difference equations. 6. Nonlinear variation of parameter methods: One independent variable. 7. Nonlinear variation of parameter methods: Several independent variables. 8. Convergence to equilibria. 9. Asymptotic behavior of generalized difference systems. 10. Stability of generalized difference systems. 11. Oscillation via Lyapunov's second method. 12. Oscillation via difference inequalities. 13. Oscillation via summation averages. 14. Oscillation for nonlinear difference equations. 15. Oscillation for quasilinear difference equations. 16. Oscillations generated by deviating arguments. 17. Positive monotone solutions for nonlinear difference equations. 18. Oscillation for  $n^{\text{th}}$  order nonlinear difference equations. 19. Comparison theorems. 20. Oscillation for second order neutral delay difference equations. 21. Oscillation for second order neutral delay difference equations (contd.). 22. Oscillation for higher order neutral delay difference equations. 23. Oscillation for partial difference equations I. 24. Oscillation for partial difference equations II. 25. Oscillation for partial difference equations III. 26. Oscillation for partial difference equations IV. 27. A three-point boundary value problem. 28. A singular boundary value problem. 29. Eigenvalues of boundary value problems. 30. Two solutions of a boundary value problem. 31.  $(n, p)$  boundary value problems. 32. Boundary value problems arising in transport phenomena. 33. Solutions of  $m$ -point boundary value problems. 34. Two-point boundary value problems for generalized difference systems. 35. Multi-point boundary value problems for generalized difference systems. 36. Resonant boundary value problems for generalized difference systems. 37. Boundary value problems in abstract spaces. 38. Linear square optimal control problem. 39. Symmetries of difference systems on manifolds. 40. Discrete polar coordinates. References.

*Conformal Invariants, Inequalities, and Quasiconformal Maps.* By Glen D. Anderson, Mavina K. Vamanamurthy and Matti K. Vuorinen. John Wiley & Sons, New York. (1997). 505 pages. \$69.95 (diskette included).

Contents:

Preface. Notation and terminology. Introduction. Survey. I. Basic functions. 1. Hypergeometric functions. 2. Gamma and beta functions. 3. Complete elliptic integrals. 4. The arithmetic-geometric mean. 5. Quotients of elliptic integrals. 6. Elliptic functions and conformal maps. II. Conformal and quasiconformal mappings. 7. Geometry of Möbius transformations. 8. Conformal invariants. 9. Quasiconformal mappings. 10. Distortion functions in the plane. III.  $n$ -dimensional functions. 11. The Grötzsch ring capacity. 12. Estimates for the Grötzsch ring constant. 13. Bounds for distortion functions. IV. Applications. 14. Quadruples and quasiconformal maps. 15. Distances and quasiconformal maps. 16. Inequalities for conformal invariants. V. Appendixes. A. Hints and solutions to exercises. B. Computational notes. C. Numerical tables. D. Computer projects using MATLAB®